

Today's Topics:

6 meter R/C
Deal on Sangean ATS-803A
Earthquake in SF!!!
Looking for comments on ham demos
PL259 connector assembly
Solar Power
Special interest nets/astronomy
When do you use this? (was Re: KENW

Date: 25 Oct 89 21:44:24 GMT

From: cs.utexas.edu!oakhill!dover!darla!waters@tut.cis.ohio-state.edu (Strawberry Jammer)

Subject: 6 meter R/C

In article <891024054249.4b000127@CCC.NMFECC.GOV> MORRIS%ORN.MFENET@CCC.NMFECC.GOV writes:

}Group,

}

} Does anyone do much experimenting with R/C? Since I don't have
}too much time, I have combined my hobbies and am flying model planes on
}6 meter R/C. I would like to know if much design/modification is done to
}the equipment. Recently I bought some used ACE R/C equipment and have had
}good results with it. The design is somewhat dated, but I can get all the
}diagrams, parts, and help with no trouble from ACE. This is different
}from the other import units which charge \$5 for a 50 cent control pot.
}Also I am eyeing the new computer controlled transmitters, but the \$500
}plus price is out of my league. Any homebrew ideas in this direction?
}Where do I look? The Ham mags have very little on the subject. Does anyone
}know where I can get Plessy ICs and data sheets from? The back-of-the-mags
}ads suppliers don't seem to carry them. Finally, anything good or bad about
}ACE products? The people around here seem to think they are quite good.
} The only mod I have done so far is to change the throttle so that
}the trim only affects the idle and not the high end. Thanks in advance.

}

}

}

KI4NW

I am cross posting this to rec.models.rc which has far more Ham R/C stuff than rec.ham-radio. From your posting I assume you know (or are learning) how to fly the airplane with no problems.

Briefly, you need to get one of the modeller's magazines such as "R/C Modeller Magazine". Best bet is a local hobby store.

There is very little experimentation with radios any more, mostly because of the availability of very cheap but high performance Japanese/Korean radios as a complete package. Futaba, and Airtronics are the two dominant brands today, both have simple basic 4ch AM radios which include servos, receiver, transmitter and batteries for around \$100 discounted. A 2 ch is even less but not recommended for aircraft. The channels BTW refer to CONTROL channels not transmitter channels, all modern R/C equipment is built for a single RF frequency but can have as many as 20 control channels.

The more expensive radios essentially have more features or better interference rejection (FM or PCM), but really are little different otherwise.

ACE is the only American manufacturer that I know of, and serves mostly the advanced and experimenter markets. Reputation and my own experience has been excellent, but their equipment is much more expensive than the imported equivalent. (I don't own any of their radios just auxiliary stuff like a fast charger). All of their radios BTW are AM, but with probably the best quality receiver on the market which more than makes up for the difference with FM/PCM etc..

Things like servos and AM radios BTW are easily interchangeable between manufacturers if you don't mind changing connectors.

As for using 6M, I would advise picking one of the "standard" frequencies: 50.8-50.9 (R/C 00-R/C 10), or 53.1,53.2 through 53.9. Monitor the channel you pick for a while to be sure there isn't a repeater there (we have one on 53.76 which wipes out 53.7 and 53.8). Oh yes make SURE you use a transmitter pin/impound etc. just like the 72Mhz people do, there are fewer users of 6M R/C but I have had people on the same channel as me (twice in 18 months).

Good luck!

*Mike Waters AA4MW/7 waters@dover.sps.mot.com *
Of course there's no reason for it, it's just our policy.

Date: 25 Oct 89 13:33:24 GMT
From: atexnet!kjl@uunet.uu.net (Ken Lebowitz)
Subject: Deal on Sangean ATS-803A

I happened to be at the Christian Science Monitor Headquarters last week and I picked up a brochure about a deal that they had on the Sangean ATS-803A. They were offering it for sale for only \$179 (with headphones, power supply, antenna adaptor and strap). The radio does come with the CSM logo affixed to it but if you can live with that it

seems like a deal. They were also selling the Sangean MS-103 for \$115. I'm only posting this since there have been several requests for inexpensive SW receivers lately. I couldn't find an address to write to but you could try sending mail to 'The World Service of the CSM' in Boston for more details. As far as I know, the radios are capable of picking up stations other than that of the CSM :-)

Date: 25 Oct 89 18:41:36 GMT
From: vsi1!wyse!stevev@apple.com (Steve Wilson xttemp dept303)
Subject: Earthquake in SF!!!

In article <35899@apple.Apple.COM> winter@Apple.COM (Patty Winter) writes:
>I didn't listen for the first few hours (too busy glued to the broadcast
>media to find out what was happening), but when I tuned in to the San
>Jose area repeaters, things were being handled very professionally. We have
>one 2m repeater designated for a resource net (i.e., signing up people
>to staff the various places where hams are needed), another linking all
>the local hospitals (most of which have 2m stations), and various others
>for the actual tactical traffic.
>
>stuff deleted...
>So there might well have been some initial confusion, but I have the
>impression that local hams got into their assigned duties very quickly.
>
>Patty
>
>p.s. I know that we have at least one local ARRL Emergency Coordinator
>here on the net (hi, Steve!), so maybe he can add to my brief synopsis.
>--
I've said a couple of things on the net about SCV's response already but I'll try and briefly go through the response I experienced.

I didn't get a chance to listen directly to resource net because I only had a 220 radio with me so I was stuck on the Milpitas 220 ARES repeater frequency. I will say that earthquake response is something we get alot of practice at though...We have a pre-programmed response to tremblers. Everyone that is in a position to respond tunes to a single frequency on 2m where we have our resource net. The first person on channel becomes net control and starts taking damage reports. This allows us to get a fair idea of where the major damage in our coverage area is. We will also send representatives to wide area repeaters and try to collect similar info then report back to the resource net control. Fairly early in the event our SEC became resource net control. Dave is a 911 dispatcher down in the Gilroy area. This man is a professional at this game and the resource net was one of the best I've ever heard.

We also have another plan that the hams support here called the MCIP or Medical Casualty Incident Plan. This plan calls for amateurs to take up positions at each of the hospitals. I know this happened, but not really sure how long it took to put in place(I was too involved with my own city response at that time) I do know it happened and that some useful traffic occurred on the channel.

Depending on the city we have some preplanned positions that will be taken by people, or we have a specified staging area/frequency where people will expect to congregate. Most people will monitor our resource net and their own city frequency as well after an earthquake happens. That's basically what I found in Milpitas when I finally got up the freeway. My local ARES people either got on our 220 repeater or on the 2m simplex frequency we use. Several people who work in Milpitas came up on resource and were directed to our city simplex frequency on 2m. This gave me about twice as many responders as I expected to find(Not a bad position to be in really ;-)

These people were held in reserve for about an hour at which time it became pretty obvious that my city hadn't really gotten any major damage. The big response happened over in Los Gatos, and I haven't really heard a summary of the first 3-4 hours over there. When I finally got over to Los Gatos(about 11 o'clock) they had 4-5 nets running from their command center and seemed to be doing a very good job of supporting both the city and red cross.

In summary I'd say we had the response part down pat, the places we made mistakes were more involved with running an extended response, i.e. an event that lasts more than 1-2 days, and involves an area larger than just our county. The jury is still out on what we did right and wrong on these aspects. We still have people in the field so a critique is still a few days away. It should be interesting.

I know that the county, and respective cities here in Santa Clara County were fairly pleased with our response. This is the only area I've worked in so I really can't comment at all about the other areas like Oakland or SF. They probably have a completely different story concerning their response. From what I've heard on the regional nets they seem to be doing a VERY professional job also!

73's de Steve KA6S
EC for the city of Milpitas

73's de Steve KA6S
EC for the city of Milpitas

Date: 25 Oct 89 23:07:42 GMT
From: cadre.dsl.pitt.edu!km@pt.cs.cmu.edu (Ken Mitchum)
Subject: Looking for comments on ham demos

What equipment is permitted and where depends on the type of hospital, among other things. I am chief of the medical service at a VA neuro-psychiatric hospital. Not only is equipment allowed, but there is a club station here, complete with tower and tribander.

At more conventional hospitals, what is allowed will likely depend on what sensitive equipment is nearby. In some areas patients are not allowed radios and televisions, so ham equipment would certainly be forbidden. HTs and other low powered VHF rigs would probably be allowed in more areas, whether posing a threat to equipment or not, simply because hospital security people walk around all day with them.

Ken Mitchum MD KY3B
Decision Systems Labs
University of Pittsburgh
km@cadre.dsl.pitt.edu

Date: 25 Oct 89 21:38:07 GMT
From: gem.mps.ohio-state.edu!uakari.primare.wisc.edu!uwm.edu!ux1.cso.uiuc.edu!deimos.cis.ksu.edu!harris.cis.ksu.edu!mac@tut.cis.ohio-state.edu (Myron A. Calhoun)
Subject: PL259 connector assembly

In article <6736@sybase.sybase.com> forrest@sybase.com writes:
>My problem with soldering PL259 connectors is that I'm paranoid
>about overheating the connector, causing the dielectric inside
>the coax to melt resulting in a short of the center and outer
>conductors.

I was taught another way to put PL-259's on coax that gets around the whole problem of soldering through the little holes. I wish I could draw a picture, but I'll try to explain in words instead: (Unfortunately, I don't even have one here in front of me to help me remember, but I'll try from memory!)

Disassemble the PL completely (I recall there can be either two or

- 1) the "male" part which has the four little holes
- 2) the part which screws into part (1), and
- 3) an optional part which screws into part (2) and which is used only when the coax doesn't fit tightly into part (2)

a) If part (3) is needed, slide it onto the coax and forget it awhile.

b) "Skin" the appropriate amount of outer insulation from the end of the coax, cut through the braid, skin some inner (foam?) insulation, etc. (many manuals give measurements for how much to cut off.

c) Do NOT "fan" out the braid, but squeeze it down around the center conductor (kinda like licking a sewing thread) and slide the coax into part (2) like sticking thread through a needle's eye. Push the coax up tight as far as it will go. If part (3) is not used, one may even screw part (2) onto the outer insulation of the coax; if part (3) is used, screw it into part (2).

d) NOW fan the braid out at a 90 degree angle but do NOT fold it back over the forepart of part (2). Then use scissors to cut the braid off SHORT so it just barely clears part (2). See "picture":

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Part (2)----->      ===== + =====+
*****insulation*****+
+++braid+++++++
foamfoamfoamfoamfoamfoamfoamfoamfoamfoamfoamfoamfoam
===center conductor=====
foamfoamfoamfoamfoamfoamfoamfoamfoamfoamfoamfoamfoam
+++braid+++++++
*****insulation*****+
Part (2)----->      ===== + =====+
with one hole showing                                     ^

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- e) Carefully solder the braid to the EDGE of part (2) | right here, all the way around the end of part (2).
- f) Screw part (2) into part (1) tightly (use two pairs of pliers). Solder center conductor to part (1).

Electrical connection depends on metal-to-metal contact of parts (1) and (2). I've never had any problems (and I've long been eligible for the QCWA!) Connector is trivial to disassemble (if you can find the pliers again) and to reuse.

— —

Myron A. Calhoun, PhD EE, W0PBV, (913) 532-6350 (work), 539-4448 (home).
INTERNET: mac@ksuvax1.cis.ksu.edu

BITNET: mac@ksuvax1.bitnet
UUCP: ...{rutgers, texbell}!ksuvax1!harry!mac

Date: 25 Oct 89 22:43:06 GMT
From: sol!karn@bellcore.com (Phil R. Karn)
Subject: Solar Power

Regarding solar panels, regulators and such... When Patty and I assembled that portable station last summer, I cobbled up a very simple shunt regulator consisting of a 2N3055 power transistor, a heatsink (important!) a resistor and a zener diode. It was wired such that when the array voltage rose to 15 volts, the regulator began conducting, clamping the voltage at that level. This was mainly to protect the radio from overvoltage if the battery (a 6.5A-hr gel cell, by the way) were disconnected.

The advantage of a shunt regulator is that no power is dissipated unless there is excess power that you can't use. Of course, this regulator did nothing to keep the battery from being overcharged, so I had to watch its voltage carefully.

The PROPER way to build a solar power regulator is to use the technique that has been standard on AMSAT satellites for the past 20 years or so. You build what is essentially a switching power regulator, except that it has two sense inputs. One is connected to the output and behaves like an ordinary power supply, cutting off the oscillator when the voltage rises above a certain set point. The other sense input behaves in reverse, cutting off the oscillator when the array input voltage falls below its setpoint. The two sense circuits are ANDed, that is, the input has to be above its setpoint and the output below its setpoint for the oscillator to run.

The big advantage of this type of regulator is efficiency -- the regulator itself has the efficiency advantages of a switching regulator, and the ability to operate the solar array at a specified voltage allows you to suck the maximum amount of power out of it. This threshold needs to be adjustable, since the optimum power point is a function of loading and especially of array temperature. The later satellites do it by measuring the array temperature with thermistors and setting the array operating points according to a lookup table in the onboard computer software.

Phil

Date: 25 Oct 89 20:22:24 GMT
From: hpl-opus!labelle@hplabs.hp.com (George LaBelle)
Subject: Special interest nets/astronomy

I'm particularly interested in amateur astronomy, however it may be good to post scheds and freqs of other special interests. There used to be an "astro-net" on 3885 but it no longer exists. Are there any others??

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George La Belle          uucp:    hplabs!hpl-opus!labelle  
Hewlett Packard Labs    smtp:    labelle@hpl-opus  
P.O. Box 10490           arpanet: labelle%hpl-opus@hp-sde.hp.com  
Palo Alto, Ca. 94303    hpdesk: GEORGE LABELLE /HP1900/UX  
                        phone (415) 857-4679  
                        ham    WB6YZZ  
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Date: 25 Oct 89 20:42:00 GMT  
From: tank!ux1.cso.uiuc.edu!ux1.cso.uiuc.edu!phil@handies.ucar.edu  
Subject: When do you use this? (was Re: KENW)
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One of the things that many (if not most or all) cross-band repeater functions of dual-band radios cannot do is make the repeater function appear split. In other words, the radio will listen on say: 146.520 and 446.000 and when a signal comes in on 146.520 it will only retransmit it on 446.000. You cannot make it transmit on some other frequency than the frequency it is listening on when in repeater mode.

Some radios may well be capable of doing that, but I have not heard of any specifically. If someone knows of one, please post the information. Such as radio could be programed to, for instance, listen on 146.34 and 444.500 and when a signal comes in, retransmit on 146.94 OR 449.500 (on the other band). I don't know if this capability is particularly needed. If you know of a case that it is, I'd like to hear about it.

--Phil Howard, KA9WGN--
<phil@ux1.cso.uiuc.edu>

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End of INFO-HAMS Digest V89 Issue #804  
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